

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
21 May 2004 (21.05.2004)

PCT

(10) International Publication Number  
**WO 2004/042432 A3**

(51) International Patent Classification<sup>7</sup>: **H01L 31/04**,  
31/042, 31/0352, 31/18

(21) International Application Number:  
PCT/US2003/035147

(22) International Filing Date:  
4 November 2003 (04.11.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
10/290,119 5 November 2002 (05.11.2002) US

(71) Applicant: **NANOSOLAR, INC.** [US/US]; 2440 Embar-  
cadero Way, Palo Alto, CA 94303 (US).

(72) Inventors: **SAGER, Brian**; 2250 Cornell Street, Palo  
Alto, CA 94306 (US). **ROSCHISEN, Martin**; 611  
Buena Vista Avenue West, San Francisco, CA 94117 (US).  
**PETRITSCH, Klaus**; 837 Shell Boulevard, Foster City,

CA 94404 (US). **SMESTAD, Gregory**; P.O. Box 51038,  
Pacific Grove, CA 93950 (US). **FIDANZA, Jacqueline**;  
3661A 18th Street, San Francisco, CA 94110 (US).  
**MILLER, Gregory**; 2275 Sharon Road, #204, Menlo  
Park, CA 94025 (US). **YU, Dong**; 35238 Erving Court,  
Fremont, CA 94536 (US).

(74) Agent: **ISENBERG, Joshua**; JDI PATENT, 204 Castro  
Lane, Fremont, CA 94539 (US).

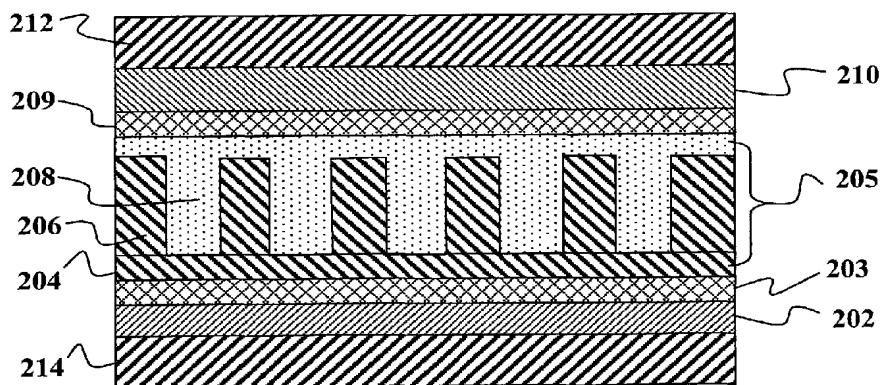
(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,  
CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE,  
GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,  
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,  
MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT,  
RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR,  
TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,

[Continued on next page]

(54) Title: PHOTOVOLTAIC DEVICES FABRICATED BY GROWTH FROM POROUS TEMPLATE

**200**



(57) Abstract: Charge-splitting networks, optoelectronic devices, methods for making optoelectronic devices, power generation systems utilizing such devices and method for making charge-splitting networks are disclosed. An optoelectronic device (200) may include a porous nano-architected (e.g., surfactant-templated) film (206) having interconnected pores that are accessible from both underlying and overlying layers. A pore-filling material (208) substantially fills the pores. The interconnected pores have diameters of about 1-100 nm and are distributed in a substantially uniform fashion with neighboring pores separated by a distance of about 1-100 nm. The nano-architected porous film and the pore-filling material have complementary charge-transfer properties with respect to each other, i.e., one is an electron-acceptor and the other is a hole-acceptor. The nano-architected porous, film may be formed on a substrate by a surfactant templation technique such as evaporation-induced self-assembly.

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SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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**Published:**

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

**(88) Date of publication of the international search report:**

23 December 2004

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/35147

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : H01L 31/04, 042, 31/0352, 31/18

US CL : 136/263, 265, 256; 257/40, 465, 466, 464, 461; 438/82, 71, 88, 57

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 136/263, 265, 256; 257/40, 465, 466, 464, 461; 438/82, 71, 88, 57

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- A	EP 1087446 A2 (DEN et al) 28 March 2001 (28.03.2001), Figures 4A, 4B, and 9A; and paragraphs 0031 and 0049.	1-15, 40, 41 ----- 16-39
X --- A	EP 1028475 A1 (LUPO et al) 16 August 2000 (16.08.2000), Figure 1; page 2, lines 46-58; and page 3, lines 49-55.	1-15, 40, 41 ----- 16-39
X,P --- A,P	US 2002/0192441 A1 (KALKAN et al) 19 December 2002 (19.12.2002), Figure 1; and paragraphs 0023 to 0040.	1-15, 40, 41 ----- 16-39
A	US 6,471,761 B2 (FAN et al) 29 October 2002 (29.10.2002).	1-41
A	DE 2741954 A1 (HERTEL) 29 March 1979 (29.03.1979).	1-41

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"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

28 October 2004 (28.10.2004)

Date of mailing of the international search report

10 NOV 2004

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

Alan Diamond

Telephone No. 571-272-1700